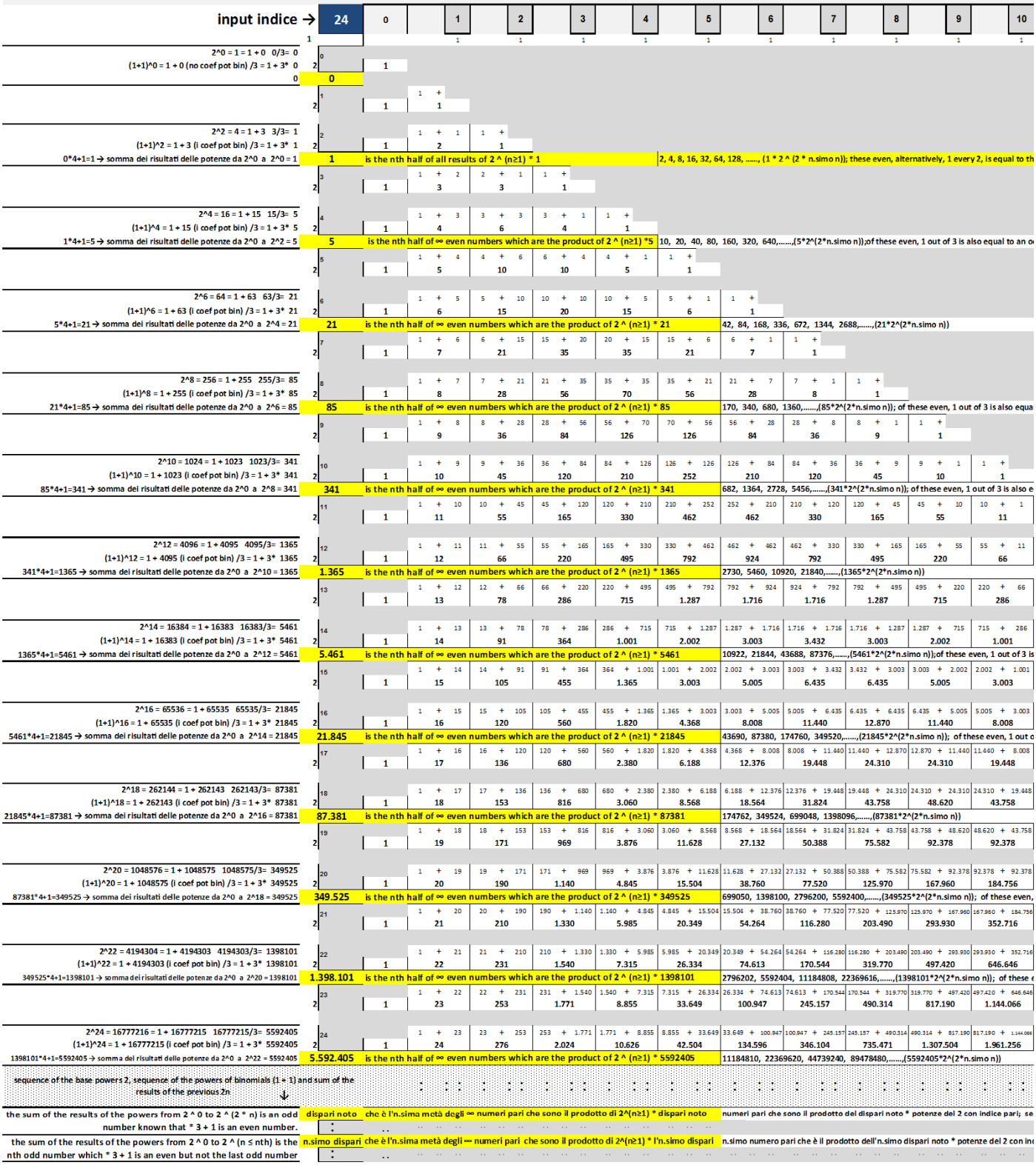
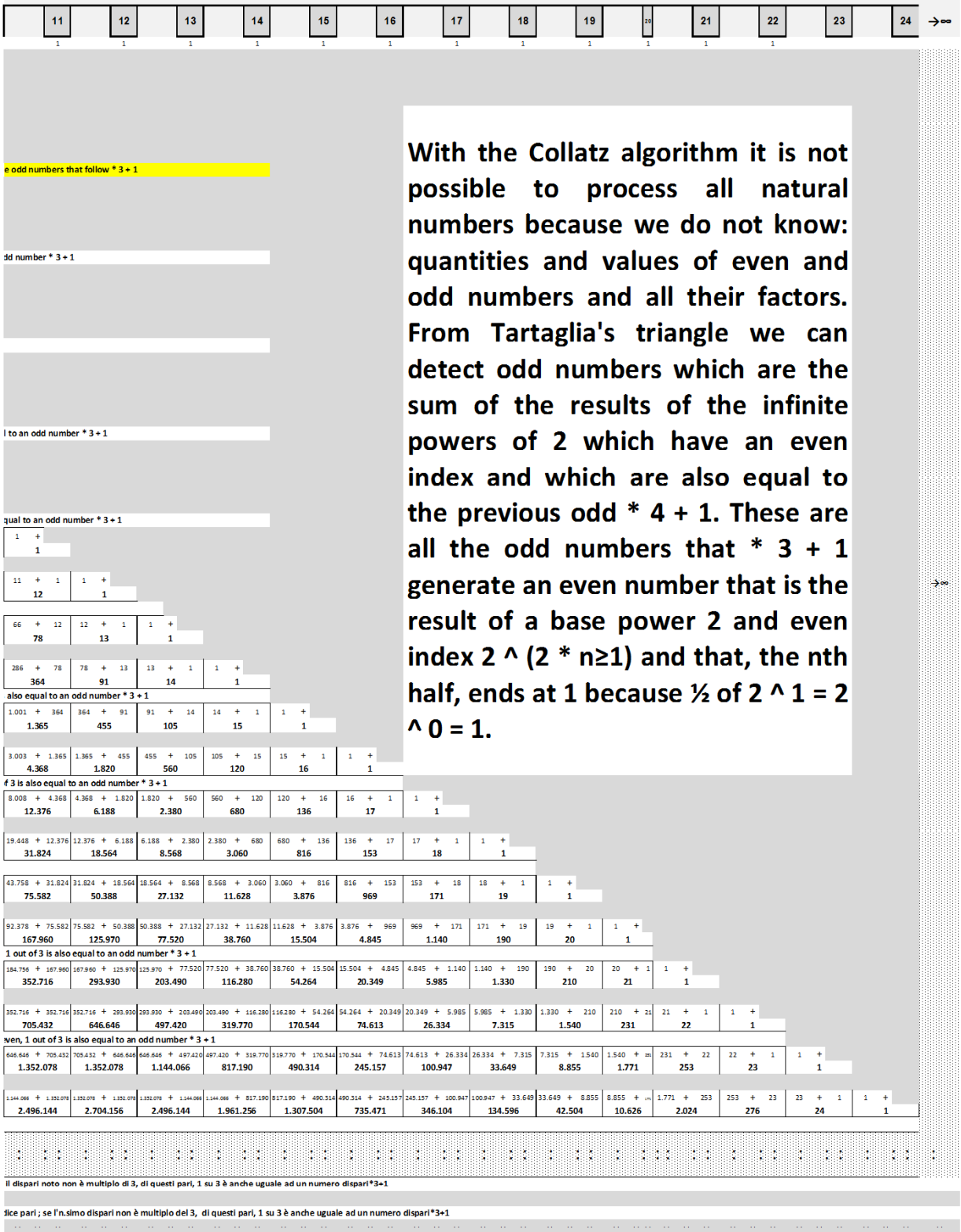
The Collatz conjecture states that for any choice of the starting number ≥1, multiply the numbers that are generated are unique and an infinite cycle can nev


input indice →
24
0
1
2
3
4
5
6
7
8
9
10
2^0 = 1 = 1 + 0 0/3= 0
(1+1)^0 = 1 + 0 (no coef pot bin) /3 = 1 + 3* 0
0
2^2 = 4 = 1 + 3 3/3= 1
(1+1)^2 = 1 + 3 (i coef pot bin) /3 = 1 + 3* 1
0*4+1=1 → somma dei risultati delle potenze da 2^0 a 2^0 = 1
1
is the nth half of all results of 2 ^ (n≥1) * 1
2, 4, 8, 16, 32, 64, 128, ..., (1 * 2 ^ (2 * n.simo n)); these even, alternatively, 1 every 2, is equal to th
2^4 = 16 = 1 + 15 15/3= 5
(1+1)^4 = 1 + 15 (i coef pot bin) /3 = 1 + 3* 5
1*4+1=5 → somma dei risultati delle potenze da 2^0 a 2^2 = 5
5
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) *5
10, 20, 40, 80, 160, 320, 640,.....,(5*2^(2*n.simo n));of these even, 1 out of 3 is also equal to an o
2^6 = 64 = 1 + 63 63/3= 21
(1+1)^6 = 1 + 63 (i coef pot bin) /3 = 1 + 3* 21
5*4+1=21 → somma dei risultati delle potenze da 2^0 a 2^4 = 21
21
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 21
42, 84, 168, 336, 672, 1344, 2688,.....,(21*2^(2*n.simo n))
2^8 = 256 = 1 + 255 255/3= 85
(1+1)^8 = 1 + 255 (i coef pot bin) /3 = 1 + 3* 85
21*4+1=85 → somma dei risultati delle potenze da 2^0 a 2^6 = 85
85
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 85
170, 340, 680, 1360,.....,(85*2^(2*n.simo n)); of these even, 1 out of 3 is also equa
2^10 = 1024 = 1 + 1023 1023/3= 341
(1+1)^10 = 1 + 1023 (i coef pot bin) /3 = 1 + 3* 341
85*4+1=341 → somma dei risultati delle potenze da 2^0 a 2^8 = 341
341
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 341
682, 1364, 2728, 5456,.....,(341*2^(2*n.simo n)); of these even, 1 out of 3 is also e
2^12 = 4096 = 1 + 4095 4095/3= 1365
(1+1)^12 = 1 + 4095 (i coef pot bin) /3 = 1 + 3* 1365
341*4+1=1365 → somma dei risultati delle potenze da 2^0 a 2^10 = 1365
1.365
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 1365
2730, 5460, 10920, 21840,.....,(1365*2^(2*n.simo n))
2^14 = 16384 = 1 + 16383 16383/3= 5461
(1+1)^14 = 1 + 16383 (i coef pot bin) /3 = 1 + 3* 5461
1365*4+1=5461 → somma dei risultati delle potenze da 2^0 a 2^12 = 5461
5.461
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 5461
10922, 21844, 43688, 87376,.....,(5461*2^(2*n.simo n));of these even, 1 out of 3 is
2^16 = 65536 = 1 + 65535 65535/3= 21845
(1+1)^16 = 1 + 65535 (i coef pot bin) /3 = 1 + 3* 21845
5461*4+1=21845 → somma dei risultati delle potenze da 2^0 a 2^14 = 21845
21.845
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 21845
43690, 87380, 174760, 349520,.....,(21845*2^(2*n.simo n)); of these even, 1 out o
2^18 = 262144 = 1 + 262143 262143/3= 87381
(1+1)^18 = 1 + 262143 (i coef pot bin) /3 = 1 + 3* 87381
21845*4+1=87381 → somma dei risultati delle potenze da 2^0 a 2^16 = 87381
87.381
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 87381
174762, 349524, 699048, 1398096,.....,(87381*2^(2*n.simo n))
2^20 = 1048576 = 1 + 1048575 1048575/3= 349525
(1+1)^20 = 1 + 1048575 (i coef pot bin) /3 = 1 + 3* 349525
87381*4+1=349525 → somma dei risultati delle potenze da 2^0 a 2^18 = 349525
349.525
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 349525
699050, 1398100, 2796200, 5592400,.....,(349525*2^(2*n.simo n)); of these even,
2^22 = 4194304 = 1 + 4194303 4194303/3= 1398101
(1+1)^22 = 1 + 4194303 (i coef pot bin) /3 = 1 + 3* 1398101
349525*4+1=1398101 → somma dei risultati delle potenze da 2^0 a 2^20 = 1398101
1.398.101
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 1398101
2796202, 5592404, 11184808, 22369616,.....,(1398101*2^(2*n.simo n)); of these e
2^24 = 16777216 = 1 + 16777215 16777215/3= 5592405
(1+1)^24 = 1 + 16777215 (i coef pot bin) /3 = 1 + 3* 5592405
1398101*4+1=5592405 → somma dei risultati delle potenze da 2^0 a 2^22 = 5592405
5.592.405
is the nth half of ∞ even numbers which are the product of 2 ^ (n≥1) * 5592405
11184810, 22369620, 44739240, 89478480,.....,(5592405*2^(2*n.simo n))
sequence of the base powers 2, sequence of the powers of binomials (1 + 1) and sum of the results of the previous 2n
the sum of the results of the powers from 2 ^ 0 to 2 ^ (2 * n) is an odd number known that * 3 + 1 is an even number.
dispari noto
che è l'n.sima metà degli ∞ numeri pari che sono il prodotto di 2^(n≥1) * dispari noto
numeri pari che sono il prodotto del dispari noto * potenze del 2 con indice pari; se
the sum of the results of the powers from 2 ^ 0 to 2 ^ (n ≤ nth) is the nth odd number which * 3 + 1 is an even but not the last odd number
n.simo dispari
che è l'n.sima metà degli ∞ numeri pari che sono il prodotto di 2^(n≥1) * l'n.simo dispari
n.simo numero pari che è il prodotto dell'n.simo dispari noto * potenze del 2 con in

Natural numbers are infinite and the Fundamental Theorem of Arithmetic or Factorization The numbers, 2 ^ n≥0 * 3 ^ n≥0 * ..... * n. first known ^ n≥0. With the Collatz algorithm all numbers e and largest even that is generated by a power 2 ^ n≥1. Infinite odd numbers, * 3 + 1, satisfy the and, all these odd numbe

ying * 3 + 1 the odd and halving the even, the algorithm will end because ver occur; any number ≥2 will always and in any case reach 1.


11 12 13 14 15 16 17 18 19 20 21 22 23 24 →∞
e odd numbers that follow * 3 + 1
dd number * 3 + 1
l to an odd number * 3 + 1
qual to an odd number * 3 + 1
also equal to an odd number * 3 + 1
f 3 is also equal to an odd number * 3 + 1
1 out of 3 is also equal to an odd number * 3 + 1
ven, 1 out of 3 is also equal to an odd number * 3 + 1
With the Collatz algorithm it is not possible to process all natural numbers because we do not know: quantities and values of even and odd numbers and all their factors. From Tartaglia's triangle we can detect odd numbers which are the sum of the results of the infinite powers of 2 which have an even index and which are also equal to the previous odd * 4 + 1. These are all the odd numbers that * 3 + 1 generate an even number that is the result of a base power 2 and even index 2 ^ (2 * n≥1) and that, the nth half, ends at 1 because ½ of 2 ^ 1 = 2 ^ 0 = 1.
il dispari noto non è multiplo di 3, di questi pari, 1 su 3 è anche uguale ad un numero dispari*3+1
dice pari ; se l'n.simo dispari non è multiplo del 3, di questi pari, 1 su 3 è anche uguale ad un numero dispari*3+1

orem states and proves that every number ≥2, is the result of the product of prime nd at 1 only if you halve the number 2 which is the smallest even number of the nth conjecture because the even number obtained is the result of a power 2 ^ (2 * n≥1) rs, are known